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AUTHOR Coffman, Charlie Q.
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ABSTRACT

Teachers should organize their instructional programs on objectives that relate to student and teacher understandings, attitudes, and appreciation rather than on objectives that emphasize performance or competencies. Studies to identify differences in schools achieving lower than expected results on state tests of basic skills indicate three elements: 1) teacher's understanding of the structure and substance of the content being taught, 2) teacher's awareness of the particular characteristics of the group of students being taught, and 3) teacher's use of practices consistent with principles of learning. The teacher should be able to grasp the structure of a subject in a way that permits other things to be related to it. These abilities will enable the teacher to teach students "how to learn," as well as enabling them to transmit basic skills and competencies. (CJ)

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TIME TO TAKE INVENTORY
BEHAVIORS OR CONCEPTS OR BOTH

The classroom teachers in American high schools; particularly those schools supported with public funds, are being called on more and more to justify efficiency on the basis of student acquired competencies. Too often the required justification is based on acquisition of facts without regard to understandings of concepts; appreciations for knowledge, and other people and cultures; and attitudes toward learning and behavior. Those responsible for evaluating teaching effectiveness need to further evaluate their emphasis on competency. This is more pertinent when Oregon, "the pioneer in settling minimal competency requirements for high school graduation, is backing away from the idea."[1] In Oregon, the state board of education has limited competencies to basic skills for reading, writing, and computation.

After the decade of the 1950's ended, the American schools in response to criticism started moving rapidly in the direction of state and national competency testing. Enthusiasm for accountability tended to generate community support for measurement of competencies. Although utilization of measures to determine skills development has a place in teaching, zealousness in building instructional programs on this basis is limiting the purposes of education. Phillips and McElhinney call attention to the problem while supporting competency based education for appropriate life-roles. They say, "Classroom teachers throughout the nation are being asked or required to alter instruction to demonstrate that pupils are mastering competencies."[2]

The Woods Hole Conference gave impetus for a movement to increase the level of learning among high school graduates. It has led to an increased

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emphasis on behavior objectives and greater reliance on behavioral psychologists' findings. Bruner in the Process of Education stated that the intention of the Woods Hole Conference was "not to institute a crash program, but rather to examine the fundamental processes involved in imparting to young students a sense of the substance and method of science."[3] Although the men attending the Woods Hole Conference were concerned with science teaching; among them were persons representing psychology, history, education, and the classics. The findings and conclusions were significant for all subjects in the high school, whether chemistry, literature, or driver education.

During the last twenty years, starting with the National Defense Educational Act, there has been an increased interest in preparing teachers of high school science and mathematics. Many experts have offered advice and solutions to teaching. Gagné, Piaget, Skinner and others have contributed to the literature and to practices of teaching during the last fifteen years. Technologists have provided equipment and learning machines with computerized programs. Even with all these contributions, the call is "back to basics" and schools are criticized for graduating people without essential competencies. Apparently the increased emphasis on objectives that can be measured has not provided the kind of high school graduate desired by the general public.

In speaking about the underlying problem with learning, Bruner said,

> Virtually all of the evidence of the last two decades on the nature of learning and transfer has indicated that, while the original theory of formal discipline was poorly stated in terms of the training of faculties, it is indeed a fact that massive general transfer can be achieved by appropriate learning, even to the degree that learning properly under optimum conditions leads one to "learn how to learn." These studies have stimulated a renewed interest in complex learning designed to produce general understanding of the structure of a subject matter. Interest in curricular problems at large has, in consequence, been rekindled among

psychologists concerned with the learning process.[4]

What is meant by structures of a subject and what it means for teachers has significance. Bruner says, "Grasping the structure of a subject is understanding it in a way that permits many other things to be related to it meaningfully. To learn structure, in short, is to learn how things are related."[5] Proponents of accountability are looking at the school in a metaphorical sense--i.e., they see it as a factory or computer with in-puts and out-puts. Young Pai and Jack Kruger in a recent article call attention to this teaching,

> According to the technological model, education is the process of establishing behaviors, or competencies, that will benefit the learner and society by gradually and systematically modifying old behaviors and/or shaping new responses. Overall aims of education first are translated into specific objectives involving competencies in a various disciplines and other areas of a learner's life, such as learning the three Rs, democratic citizenship, and so on. These objectives then are formed into specific behavior changes. Each competency, or performance, is analyzed into still smaller and simpler behaviors, so that by mastering them a learner eventually can reach the target behavior specified in the objectives.[6]

Schools are accountable and teacher effectiveness will be improved; resulting in more competent high school graduates when the teachers themselves grasp the structure of the subject. As they become more aware of the structure of any subject, the concepts inherent in it, and the facts which support those concepts; their teaching will take on a more dynamic dimension. Even basic skills can improve for all students. The Delaware Department of Public Instruction conducted case studies to identify differences in schools achieving lower than expected on state tests of basic skills in elementary grades. William McCormick, State Supervisor for Elementary Education said there were three (3) elements contributing to the difference. The elements are teachers': (1) understanding of the structure and substance of the content being taught; (2)

their awareness of the particular characteristics of the group of students being taught; and (3) their use of practices consistent with principles of learning.[7]

McCormick indicated that the teacher knowledge of the structure of a subject and substance of the content was related to their ability to formulate objectives and teaching tasks, and manage instructional sequences. He said,

> Teachers demonstrated a greater understanding of the structure and substance of the content being taught. They (a) were more specific about the lesson objective; (b) were better able to judge accurately the time needed to accomplish that objective; (c) made more frequent use of structuring comments as instruction proceeded from task to task; (d) better accomplished breaking the lesson into manageable and logical sequences; and (e) more ably anticipated problems in reaching the objective and made accommodations for them.[8]

High school teachers can be more effective instructors if they develop a positive attitude about grasping the structure of the subject. If the concept has not been acquired during a teacher's undergraduate studies, it is a problem the graduate school needs to help alleviate. Teachers who spend time writing behavioral objectives in specific ways with intentions to induce acceptable responses may be at an impassee. Can all the behaviors be identified? If everyone is required to behave or respond in a certain way, will there be a tendency to produce a mechanical society?

Ronald Hyman thinks objectives with too much specificity provide less of a sense of direction for the entire subject or unit of study than do those with more generalized words such as understanding, appreciating, thinking, and writing. In his view, a broad perspective is more preferable than narrowly conceived facts described through use of action verbs.

Hyman says:

> Centering behavior objectives strictly in terms of specific verbs is perhaps permissible with the simplest skills and the lowest levels

> of knowledge and values. But the teaching only of simple skills and low levels of knowledge and value is most rare. In the overwhelming percentage of teaching situations, the teacher builds on simple subject matter to teach complex skills, knowledge, and values. The teacher is then not concerned merely with reciting, drawing, high jumping, and comparing. Such specific actions are not ends in themselves but examples of still more general actions and building blocks toward complex actions. Specific actions take on meaning when seen in the context of a larger setting, when subsumed under a more general verb and taken as examples of it.[9]

Concept ormation is at the center of a method of teaching. Every high school subject is made up of structure. Too often, teachers take the textbook as an organized structure to be followed chapter by chapter--after the concluding chapter has been completed--not necessarily learned, the student is deemed to be competent. Kenneth H. Hoover has provided a clear definition of what conceptual thinking means. He says, "A concept is an organized pattern of relationships which helps one achieve meaning from experience."[10] A concept is a generalization, an abstraction gained from experience. Facts derived from observations and experiences enable one to identify or derive the concept to which they are related--whether in subjects on science, literature, history, or safety education.

Although not necessarily a way of thinking as outlined by John Dewey, there are elements in the development of conceptual viewpoints which are akin to it. We do hypothesize about a problem and seek data (facts) to substantiate or refute the hypothesis. When sufficient facts have been marshalled to support a common viewpoint, one may formulate a conceptual statement concerning that problem or question.

Since the predominant manner of teaching high school subjects is related to the textbook, it is well to consider its contents as basic to instruction. However, the textbook must be supplemented by other sources. In Reading on Learning and Teaching in the Secondary School, Hoover provides an out-

line of a procedure that teachers may use in gaining the necessary concepts and related facts contained within the respective textbook subject.[11]

Hoover's steps are sufficient for the teacher who wants to organize a subject into manageable Units from which lesson plans can be prepared. The lesson plans will include objectives that relate to understandings, attitudes, and appreciations; which if mastered can provide the student with the necessary competencies to cope with life and/or college disciplines when and if they want to pursue careers requiring college level courses.

"Footnotes"

[1]National School Public Relations Association, "Education USA" (October 1, 1979), p. 37.

[2]NAASP Bulletin, Number 429, Volume 63 (October 1979), p. 26.

[3]Jerome S. Bruner, The Process of Education (Cambridge, Massachusetts: Harvard University Press, 1962), p. vii.

[4]Ibid., p. 6.

[5]Ibid., p. 7.

[6]Young Pai and Jack Kruger, "Accountability at What Price", Journal of Teacher Education, Volume XXX, Number 4 (July-August 1979), p. 20.

[7]William J. McCormick, "Teachers Can Learn to Teach More Effectively", Educational Leadership, ASCD, Volume 37, Number 1 (October 1979), p. 59.

[8]Ibid.

[9]Ronald T. Hyman, Ways of Teaching (New York: J.B. Lippincott, Harper and Row, 1974), p. 43.

[10]Kenneth H. Hoover, Learning and Teaching in the Secondary School (Boston: Allyn and Bacon, 1964), p. 15.

[11]Kenneth H. Hoover, Readings on Learnings and Teaching in the Secondary School (Boston: Allyn and Bacon, 1968) pp. 85-91.